REMARKS

The remainder of this Amendment is set forth under appropriate subheadings for the convenience of the Examiner.

Allowed Claims

Claims 1-8 and 16-22 have been allowed. The Examiner states that none of the references of record, taken either alone or in combination, disclose a computer apparatus for determining state of physical properties of a chemical process having all the claimed features of applicants' instant invention. In particular, the Examiner states that none of the references of record, taken either alone or in combination, disclose a computer apparatus for determining state of physical properties of a chemical process specifically including "an inferential model means coupled to receive the values of the physical properties at steady state from the steady state modeling means, the inferential model means for determining state of the physical properties over a period of time base on values of the physical properties at steady state."

Amendments to the Claims

Claim 9 has been amended to more clearly define the claimed invention. Support for this amendment can be found in Claim 1, as originally filed, and in the specification, for example, at page 6, lines 21-25, and page 7, lines 5-11. No new matter has been added.

Rejection of Claims 9-15 under 35 U.S.C. § 103(a)

Claims 9-15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,402,333 to Cardner (hereinafter "Cardner") in view of U.S. Patent No. 5,687,090 to Chen (hereinafter "Chen"). In particular, the Examiner states that it would have been obvious to one of ordinary skill in the art to incorporate the calculated physical properties by Chen's method into the steady state system of Cardner.

Base Claim 9 of the instant invention is directed to a method for determining state of physical properties of a chemical process. As now amended, the method of Claim 9 includes the step of "***based on the instantaneous physical property values, inferentially modeling the subject chemical process*** using a first order dynamics of mixing analysis, thereby estimating state of the physical properties over a period of time, such that estimates of the physical

properties are dynamically calculated based on ***the instantaneous physical property values*** for a given time ***provided by the rigorous steady state modeling***."

Cardner discloses a system for providing product property estimates from process models that are run on a computer in parallel with the actual process to provide estimates of product properties to be used to control the process.

Chen discloses a methodology for calculating the physical properties of a polymer solution based on the properties of the functional groups of segments which define polymer molecules.

However, neither Cardner nor Chen, taken separately or in combination, disclose or suggest ***inferentially modeling a subject chemical process based on the instantaneous physical values provided by a rigorous steady state modeling,*** thereby estimating state of the physical properties over a period of time, as claimed in currently-amended Claim 9.

In addition, as acknowledged by the Examiner in the Reasons for Indicating Allowable Subject Matter, neither Cardner nor Chen, taken separately or in combination, disclose or suggest the claimed feature of "an inferential model means coupled to receive the values of the physical properties at steady state from the steady state modeling means, the inferential model means for determining state of the physical properties over a period of time based on values of the physical properties at steady state." Accordingly, there is no disclosure or suggestion in Cardner or Chen, taken separately or in combination, of the corresponding step of using such an inferential model means, i.e., based on values of the physical properties at steady state, inferentially modeling a subject chemical process for estimating state of the physical properties over a period of time.

Because there is no teaching in Cardner or Chen, either separately or in combination, of such step of inferentially modeling a chemical process based on the instantaneous physical values provided by a rigorous steady state modeling, Applicants' invention claimed in Claim 9, as amended, would not have been obvious to one of ordinary skill in the art utilizing Cardner and Chen.

Therefore, the subject matter of Claim 9, as amended, is not obvious in view of Cardner and Chen, separately or in combination. Claims 10-15 depend from base Claim 9, and thus, the subject matter of these claims also is not obvious in view of Cardner and Chen, separately or in combination. Accordingly, Applicants respectfully request reconsideration and withdrawal of this rejection.

SUMMARY AND CONCLUSIONS

Claims 1-8 and 16-22 have been allowed.

Claim 9 has been amended to more clearly define the claimed invention. As discussed above, the subject matter of Claim 9, as amended, is not obvious in view of Cardner and Chen, separately or in combination. Therefore, it is believed that base Claim 9, as amended, and Claims 10-15, dependent from base Claim 9, are in condition for allowance.

Accordingly, it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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